EDITORIAL JSLS

Training Surgery Residents and Fellows in the Rigorous Evaluation of Academic Literature

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INTRODUCTION

The US system of post–medical school education has evolved into a highly structured, highly developed, efficient system of postgraduate training. Despite limitations of resident work hours, surgical educators have largely met the demands of 21st-century resident training in operative surgery.

However, there is one area of academic surgical training that has been sadly neglected. That area—the training of surgical residents to become facile in the critical review of surgical literature—has been inadequate. It is almost as if we, as surgical educators, expect residents to learn the critical evaluation skills of peer review by osmosis—merely observing mentors and then practicing on their own.

Structured courses in postgraduate curricula that deal with evaluating surgical literature are few and far between. Historically, it seems that many of us learned the skill of literature evaluation by "osmosis," that is, by the unstructured watching of others, reading and practicing by ourselves. But, surely, osmosis is not the most efficient or advantageous way to systematically train a majority of residents.

To help bridge this "knowledge gap," the *Journal of the Society of Laparoendoscopic Surgeons* (JSLS) has initiated a pilot program to pass on the hard-won skills of master reviewers to residents and fellows. This program, which is dependent on the selfless sharing of knowledge by experienced Society of Laparoendoscopic Surgeons, is detailed in the charter below.

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JSLS RESIDENT–FELLOW JUNIOR REVIEW: CHARTER

Mission

Train the next generation of surgeons in the rigorous process of manuscript peer review.

Statement of Purpose

The Society of Laparoscopic Surgeons maintains that it is important to train the next generation of surgeon-scientists in peer review. These "junior reviewers" consist of residents, fellows, and junior faculty. It is widely held that refereed papers are the coin of the science realm. The JSLS asserts that a formalized process of training junior peer reviewers is needed because

- Training and experience in conducting peer review is not always provided in graduate or postgraduate education.
- It is challenging to provide training in performing peer review and provide appropriate mentoring and feedback.
- Whether in academic or clinical practice, it is imperative to be able to accurately assess the quality of a manuscript or publication to ensure that the evidence presented is scientifically valid.
- Training by a mentor experienced in the process of peer review will provide the highest quality of education, which is formalized, guided, and transparent.[1]

Process of Mentored Reviews

Mentors. A mentor is someone who imparts wisdom to and shares knowledge with a less experienced colleague: an experienced and trusted advisor. Established peer reviewers are encouraged to participate as mentors and involve junior reviewers in the review process. Mentors must agree to

- Ensure confidentiality of the review.
- Provide supervision with feedback to the junior reviewer concerning the quality and constructiveness of the review.
- Submit the review on time.

- Assume responsibility for the conduct and content of the review.

A single integrated final review is to be submitted by the supervising mentor to the journal editor, and a separate critique by the mentor of the junior reviewer should be submitted to both the junior reviewer and the journal editor. The review should not be excessive in length and should be concise and discerning.

Junior Reviewers. By agreeing to participate as a junior reviewer, the resident-fellow reviewer agrees to

- Follow JSLS guidelines for reviews, including confidentiality of the manuscript. Dispose of/delete the manuscript and all review notes after the review is completed, the review is submitted to the mentor, and feedback is received.
- Complete the review expeditiously to allow time for supervision and revision.

Peer-Review Techniques

The first rule of peer review is to be courteous. A good peer reviewer makes specific, constructive, and useful comments to help improve the manuscript's presentation, even if the final disposition is to "reject." The peer review is both a critique for the editor to determine the disposition of the manuscript (accept, accept with minor revision, accept with major revision, or reject) and an educational opportunity for the surgeon who is submitting the manuscript. A peer reviewer is a consultant, not a judge and jury.[2,3]

Some issues to consider that are important to the review process are provided in Appendix 1, "Guidelines for Peer Review of a Manuscript or Publication."

Credit and Acknowledgment

Junior reviewers as well as supervising mentor reviewers will be acknowledged by JSLS in a future issue of the journal. Junior and supervising mentor reviewers are encouraged to list participation in the JSLS mentoring program on their curricula vitae.

APPENDIX 1

Guidelines for Peer Review of a Manuscript or Publication

- What is your perception of the science of the paper? "The paper describes . . . and concludes . . . ."
- Is the work original?
- Is the science of high quality?
- Does the study have a scientifically valid "protocol and/or study design"?
- Is there enough new information to merit publication?
- What are your editorial suggestions to improve the manuscript (both suggestions of something to add or constructive critique of something to remove)?
- Indicate the strengths of the paper.
- Indicate the weaknesses of the paper.
- Is the hypothesis clear?
- Are the methods adequately described?
- Can you follow the results? Do the tables and images make sense and agree with the text?
- Are the statistics appropriate? Does a statistician need to review the manuscript also?
- Is the work adequately discussed?
- Are the conclusions supported by the presented "evidence"?
- Is there any apparent bias, either overt or unrecognized by the author?
- Are the references complete and pertinent?
- Are the appropriate acknowledgments included (eg, educational grants)?

The final report should contain answers to 5 questions:

1. Originality: Is the work original, and does it contribute to the literature?
2. Quality: Is the research question or hypothesis clearly defined, is the experimental design valid, and is the hypothesis answered?
3. Quantity: Is there enough material presented?
4. Readability: Is there a way to improve the work? Is an expert in the use of the English language necessary?
5. Appropriateness: Is the manuscript appropriate for this journal (ie, does it involve minimally invasive surgery, robotics, or advanced technologies), and would it be of interest to our readership?

References:

1. Mentoring program for junior reviewers. http://www.apa.org/pubs/journals/cpp/reviewer-mentoring-program.aspx. Accessed December 17, 2013.

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3. Hoppin FG Jr. How I review an original scientific article. *Am J Respir Crit Care Med.* 2002;166:1019–1023. http://dx.doi.org/10:1164/rccm.200204-3240E. Accessed December 17, 2013.